

CATALOGUE OF DESCRIBED AND FIGURED SPECIMENS IN THE BEGG COLLECTION IN THE HUNTERIAN MUSEUM OF THE UNIVERSITY OF GLASGOW

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JOHN L. BEGG (1874–1958) of Glasgow was a distinguished amateur palaeontologist who for many years collected fossils notably from the Ordovician and Silurian rocks of southern Scotland. His specimens, many of them exceptionally well preserved, have been used by Begg himself and by others in palaeontological and stratigraphical studies that have enriched Lower Palaeozoic geology. Most of them were presented to, or bought by, the Hunterian Museum of the University of Glasgow, where they form the Begg Collection.

The collection is especially rich in fossils of the Bala and Valentian series of the Girvan district, represented by several hundred trilobites and as many protrematous brachiopods, about 100 asteroids, 70 gastropods, 60 lamellibranchs, 60 cystids, and smaller numbers of inarticulate brachiopods, nautiloids, and crinoids. The local fossils are supplemented by about 200 other specimens, most of which Begg got by exchange, from comparable horizons in Scandinavia, Canada, and the U.S.A.; and by about 60 extra-British Cambrian trilobites. A group of Carboniferous fossils includes about 100 lamellibranchs (mainly Scottish), about 80 crinoids, about 70 gastropods (many from the Isle of Man), and 30 nautiloids; but Carboniferous corals, brachiopods, goniatites, and polyzoans are very poorly represented. Mesozoic and Tertiary fossils are mostly lacking, but there is a heterogeneous group of about 50 ammonites, and a few gastropods from the Pleistocene clays of the Clyde estuary.

This catalogue lists all the described and figured specimens in the Begg Collection. References are given to the original figure or description of each specimen, and to any subsequent renaming or redescription. Where possible, references are also given to the use of several specimens or of supplementary specimens in description, and comment is made on the manner of preservation of the specimens.

Specimens 'lost' or unidentifiable are omitted from reference; a number of type-specimens that should have come to the Museum, and that may be recorded elsewhere as being in the Museum collections, were never received from Mr. Begg, and, although it is likely that he gave or lent them to other workers or deposited them in other institutions, no record of them is now to be found in Glasgow.

Specimens are listed under Hunterian Museum numbers, but Mr. Begg's private numbers (prefaced by BG) are also included in round brackets where the specimens carry them. An explanation of Mr. Begg's Starfish Bed horizons may be found in Begg 1947, p. 29.

TRILOBITA

Ordovician

Acidaspis (Ceratocephala) discreta Reed

Internal mould, A1030a (BG2102), and external mould, A1030b (BG2103), of an almost complete specimen.

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

Reed 1935a, p. 38, pl. 1, figs. 22, 22a, b (A1030a), pl. 4, fig. 10 (A1030b). Whittington 1956, p. 515, pl. 59, fig. 13; pl. 60, fig. 10 (A1030b). Whittington placed the species in synonymy with *Proceratocephala terribilis* (Reed), to which he referred Begg's specimen.

Acidaspis (Miraspis) solitaria Reed

Holotype, a small cranidium, A939 (BG3142).

Caradoc, Stinchar Limestone Group, *Didymograptus superstes* Shales; Aldons, near Girvan.

Reed 1935a, p. 37, pl. 3, fig. 21.

Ampyx (Ampyxina) aldonensis Reed

Syntypes, 'a few head-shields', only two of which are specified by number, A919 (BG2124) and A920 (BG3101). There is also a pygidium, A1126 (BG2141), which according to Reed may be associated with them.

Caradoc, Stinchar Limestone Group, *Didymograptus superstes* Shales; Aldons, near Girvan.

Reed 1935a, p. 7, pl. 1, fig. 23 (A919). Whittington 1959, p. 487, pl. 28, fig. 10 (A1126), figs. 11, 13 (A919).

Ampyx carrickensis Begg

Holotype, A3690, a small cephalon.

Caradoc, Balclatchie Group; Dow Hill, near Girvan.

Begg 1947, p. 42, pl. 3, figs. 7, 8.

Asaphus (Parasasilens) cf. powisi Murchison

Part of a thorax comprising axial lobe and pleura of seven segments, A934 (BG2261).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

Reed 1935a, p. 12, pl. 2, fig. 13.

Astroproetus reedi Begg

Holotype, A1082 (BG6451), a complete specimen.

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

Begg 1939, p. 375, pl. 6, fig. 2.

Astroproetus whittardi Begg

Holotype, A1083 (BG7707), a complete specimen.

Ashgill, Upper Drummuck Group, Starfish Bed No. 2; Ladyburn, near Girvan.

Begg 1939, p. 376, pl. 6, fig. 3.

Calymene (Colpocoryphe?) aldonensis Reed

Syntypes, two imperfect cranidia, A1037 (BG2111) and A1038 (BG2110).

Caradoc, Stinchar Limestone Group, *Didymograptus superstes* Shales; Aldons, near Girvan.

Reed 1935a, p. 48, pl. 1, fig. 14 (A1037), fig. 15 (A1038). Shirley 1936, p. 418.

Calymene (Diacalymene) bigener Reed

The description is based on one nearly perfect cephalon with attached thorax, A1098 (BG929).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

Reed 1935a, p. 47, pl. 1, fig. 3. Shirley 1936, p. 418.

Clypoproetus asteroideus Begg

Holotype, A1080 (BG7713), a complete specimen.

Ashgill, Upper Drummuck Group, Starfish Bed No. 2; Ladyburn, near Girvan.

Begg 1939, p. 374, pl. 6, fig. 1.

Cryptolithus nicholsoni Reed

The specimen, A3623 (BG142), shows the lower lamella of the fringe.
Ashgill, Pusgill Beck, Westmorland.
Begg 1944, pl. 5, fig. 1.

Cybele (Cybeloides) loveni Linnarsson var. *girvanensis* Reed

A specimen split to separate the glabella with hypostome attached beneath, A737, A737a, and A737b (BG8217).
Ashgill, Upper Drummuck Group, Starfish Bed No. 2; Ladyburn, near Girvan.
Begg 1943a, p. 61, pl. 2, figs. 2, 2a (A737).

Cybele (Cybeloides) loveni Linnarsson var. *radiata* Reed

Holotype of the variety, a specimen consisting of a pair of free cheeks displaced from their correct relative position, together with some broken fragments of the thorax, A1054 (BG259).
Ashgill, Upper Drummuck Group, Ladyburn mudstone, Zone of *Dicellograptus anceps*; South Threave, near Girvan.
Reed 1930, p. 195, pl. 9, figs. 2, 2a-b.

Cybele (Cybelina) monoceros Reed

The description of this species is based on a cranidium, A1067 (BG252). Two small pygidia, A1068 (BG254) and A1069 (BG253), are said to be probably referable to the same species.
Caradoc, Balclatchie Group; Balclatchie, near Girvan.
Reed 1931a, p. 101, pl. 5, fig. 1 (A1067), fig. 2 (A1068), fig. 3 (A1069). Reed 1931b, p. 26.

Cybele (Cybele) nicholsoni Reed

This species is apparently based on a cranidium, A1042 (BG2260).
Caradoc, Balclatchie Group; Dow Hill, near Girvan.
Reed 1935a, p. 52, pl. 4, fig. 4.
An isolated right free cheek, A1043 (BG2273), from the same locality, probably belongs to the same species (Reed 1935a, p. 53, pl. 2, fig. 14).

Cybele nicholsoni Reed

A hypostome, counterpart moulds, A4127a (BG11903) and A4127b (BG11904), is referred tentatively to this species.
Caradoc, Balclatchie Group; Dow Hill, near Girvan.
Begg 1951, p. 367, pl. 1, fig. 14 (A4127a).

Cybele (Cybele?) perversa Reed

Holotype, a small incomplete cranidium, A1100 (BG1052).
Caradoc, Balclatchie Group; Balclatchie, near Girvan.
Reed 1935a, p. 53, pl. 4, fig. 5.
A specimen referred doubtfully to this species (ibid., p. 54) cannot be found in the Begg Collection.

Encrinurus multisegmentatus (Portlock) var. *girvanensis* Reed

This variety 'is represented by one perfect individual [A1040 (BG963)] and by several incomplete specimens, thoraces, pygidia and head-shields one of which [A1136 (BG960)] shows the hypostome in position'. Specimens A1040 and A1136 are labelled, but the others, for which numbers are not given, cannot be positively identified.
Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.
Reed 1935a, p. 50, pl. 4, fig. 9 (A1040).
A hypostome, A733 (BG7573).
Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.
Begg 1943a, p. 58, pl. 2, fig. 4.
A hypostome, A4128 (BG11905).
Same horizon and locality.
Begg 1950b, p. 367, pl. 1, fig. 15.

Encrinurus sublaceolatus Reed

Holotype, a pygidium, A1093 (BG2265).

Caradoc, Stinchar Limestone Group; Glenlochrie, near Girvan.

Reed 1935a, p. 49, pl. 4, fig. 8.

Encrinurus aff. *trispinosus* Reed

A large cranidium, A4099 (BG3368).

Ashgill, Lower Drummuck Group, Quarrel Hill mudstones; east brow of Quarrel Hill, New Dailly, near Girvan.

Tripp 1957, p. 68, pl. 11, fig. 14.

Flexicalyuene cf. *neeki* (Foerste)

A cranidium, A1096 (BG1011).

Ashgill, Lower Drummuck Group, Quarrel Hill mudstones; east brow of Quarrel Hill, New Dailly, near Girvan.

Shirley 1936, p. 404, pl. 29, fig. 8.

Illaeus balclatchiensis Reed var. *cristata* Reed

Holotype of the variety, a cranidium, A935 (BG25).

Caradoc, Balclatchie Group; Dow Hill, near Girvan.

Reed 1935a, p. 24, pl. 3, fig. 2.

Illaeus drummuckensis Reed

Holotype, A3687 (BG6454), a complete pygidium; paratype, A3688 (BG7740), the posterior half of another.

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

Reed *in* Begg and Reed 1945, p. 260, pl. 1, fig. 3 (A3687), fig. 4 (A3688).

Illaeus loughicapitatus Reed

A cephalon with the epistome in place, split to expose the hypostome *in situ*, counterparts, A734 (BG7669a) and A734a (BG7669).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

Begg 1943a, p. 59, pl. 2, figs. 1, 1a (A734).

Illaeus oblongatus (Angelin) var. *exstans* Reed

Holotype of the variety, a small pygidium, A1108 (BG9478).

Caradoc, Balclatchie Group; Balclatchie, near Girvan.

Reed 1941, p. 270, pl. 5, fig. 7.

Illaeus roemeri Volborth var. *transversalis* Reed

Holotype of the variety, a pygidium, A1053 (BG290).

Ashgill, Upper Drummuck Group, Ladyburn mudstones, Zone of *Dicellograptus anceps*; South Threave, near Girvan.

Reed 1930, p. 194, pl. 9, figs. 1, 1a, b.

Illaeus superstes Reed

Syntypes, a cephalon and pygidium of the same individual with the thorax crushed between them, A3630 (BG9685); a cephalon lacking the right free cheek, A3631 (BG9686); a pygidium with thorax attached, A3632 (BG9653); a pygidium, A3633 (BG9687); and a cephalon, A3646 (BG9680), which is not figured (p. 60).

Caradoc, Balclatchie Group; Balclatchie, near Girvan.

Reed 1944a, p. 59, pl. 2, figs. 3, 3a (A3630), figs. 4, 4a (A3631), fig. 5 (A3632), fig. 6 (A3633).

Lichas (*Metopolichas*?) *congruus* Reed

Holotype, a well-preserved cranidium, A937 (BG2084).

Ashgill, Upper Drummuck Group, Ladyburn mudstones, Zone of *Dicellograptus anceps*; South Threave, near Girvan.

Reed 1935a, p. 34, pl. 3, fig. 10.

Lichas (Platylichas) crescenticus Reed

The fragments (BG2080 and BG2082) on which Reed based his description are counterparts; the holotype thus consists of part of a cranidium with hypostome in place, A915 (BG2082), an external mould of the complete cephalon, A915a (BG2082), and an external mould of the ventral surface and hypostome, A915b (BG2080).

Ashgill, Upper Drummuck Group, Ladyburn mudstones, Zone of *Dicellograptus anceps*; South Threave, near Girvan.

Reed 1935a, p. 29, pl. 3, figs. 13 and 15 (A915), fig. 14 (A915b), fig. 16 (A915a). Phleger 1937, p. 254 (BG2080a misquoted for BG2082). Begg 1943b, p. 160.

Lichas (Hemiargus) maccullochi Reed

A hypostome *in situ*, exposed in dorsal view beneath the cephalon which has been partly removed, A730 (BG5404).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

Begg 1943a, p. 56, pl. 2, fig. 6.

Reference is made (p. 56) to four specimens in which ornament is well shown, A743 (BG3305), A744a (BG3307a), A745 (BG3219), A746 (BG7561).

Lichas (Acrolichas) tenuilobatus Reed

A small cranidium, A3647 (BG9783).

Caradoc, Balclatchie Group; Balclatchie, near Girvan.

Reed 1944a, p. 61, pl. 2, fig. 8. Tripp 1958, p. 580, pl. 85, fig. 12.

Lichas (Platylichas) thraivensis Reed

Holotype, a pygidium, A916 (BG2087), and its external mould, A916a (BG2081).

Ashgill, Upper Drummuck Group, Ladyburn mudstones, Zone of *Dicellograptus anceps*; South Threave, near Girvan.

Reed 1935a, p. 32, pl. 3, fig. 17 (A916), fig. 18 (A916a).

A hypostome, A917 (BG2090), is referred to as possibly belonging to this species (Reed 1935a, p. 33, pl. 3, fig. 19).

Lichas (Platylichas) vicinus Reed

Holotype, a crushed pygidium with parts of a few thoracic segments attached, A918 (BG2083).

Ashgill, Upper Drummuck Group, Ladyburn mudstones, Zone of *Dicellograptus anceps*; South Threave, near Girvan.

Reed 1935a, p. 33, pl. 3, fig. 12.

Otarion elongatus Begg

Holotype, A1089 (BG9325), a nearly complete specimen; paratype, A1090 (BG6453), an external mould of a small, almost complete specimen.

Ashgill, Upper Drummuck Group, Starfish Bed No. 2; Ladyburn, near Girvan.

Begg 1939, p. 380, pl. 6, fig. 8 (A1089), fig. 7 (A1090).

Otarion (= *Cyphaspis*) cf. *minima* (Cooper)

A small, incomplete cranidium, A1034 (BG1017).

Ashgill, Lower Drummuck Group, Quarrel Hill mudstones; Quarrel Hill, near Girvan.

Reed 1935a, p. 44, pl. 1, fig. 17.

Paraharpes hornei (Reed)

An almost complete specimen, E4472 (BG759) and E4473 (BG760), counterparts; and part of a cephalon with fringe, A4475 (BG2362).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Thraive Glen (Ladyburn), near Girvan.

Whittington 1950, p. 39, pl. 4, fig. 4 (A4473), fig. 6 (A4475). The specimen (BG803) of figs. 1 and 3 cannot be found in the Begg Collection.

Phacops (Monorakos) asteroideus Reed

A complete specimen with pygidium displaced, A1058 (BG594), and a cephalon with part of the thorax attached, A1059 (BG595).

Ashgill, Upper Drummuck Group, Ladyburn mudstones, Zone of *Dicellograptus anceps*; South Threave, near Girvan.

Reed 1930, p. 198, pl. 10, figs. 1, 1*a*, *b* (A1058), figs. 2, 2*a* (A1059). Reed 1931*b*, p. 24.

Phacops (Calliops) jukesi Salter var. *vicina* Reed

Holotype, A5370 (BG11768), a nearly complete cephalon.

Caradoc, Balclatchie Group; Balclatchie, near Girvan.

Reed 1945, p. 314, pl. 1, fig. 6.

Phacops (Pterygometopus?) quarrelensis Reed

Syntypes, two pygidia, A1056 (BG603), A1057 (BG602).

Ashgill, Lower Drummuck Group, Quarrel Hill mudstones; Quarrel Hill, near Girvan.

Reed 1930, p. 197, pl. 10, figs. 3, 3*a* (A1056). Reed 1931*b*, p. 24.

Phacops (Pterygometopns) retardatus Reed

An almost complete specimen, A736 (BG8208*a*), with part of the cephalon missing so that it presents an external mould of the hypostome.

Ashgill, Upper Drummuck Group, Starfish Bed No. 2; Ladyburn, near Girvan.

Begg 1943*a*, p. 60, pl. 2, fig. 10.

Phillipsinella parabola Barrande

A hypostome in place behind the glabella, in ventral aspect, counterparts, A735 (BG8211) and A735*a* (BG8211*a*).

Ashgill, Upper Drummuck Group, Starfish Bed No. 2; Ladyburn, near Girvan.

Begg 1943*a*, p. 60, pl. 2, fig. 8 (A735).

Platylichas congruens (Reed)

A large individual in which the cephalon and pygidium are crushed and incomplete, (A3967).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

Tripp 1958, p. 579, pl. 85, figs. 7, 8.

Pliomera (Pliomerops) girvanensis Reed

Holotype, part of a cephalon, A1079 (BG445).

Caradoc, Stinchar Limestone Group; Aldons Quarry, near Girvan.

Reed 1930, p. 196, pl. 9, figs. 3, 3*a*.

Pliomerella serotina Reed

Holotype, part of a cranium, A1107 (BG9480), and a fragment of its impression, A1107*a* (BG9481).

Caradoc, Balclatchie Group; Dow Hill, near Girvan.

Reed 1941, p. 268, pl. 5, fig. 1 (A1107), fig. 2 (A1107*a*).

Proceratocephala terribilis (Reed)

Internal and external moulds, A1030*a* (BG2102) and A1030*b* (BG2103), of an almost complete specimen. The specimen is the holotype of *Acidaspis (Ceratocephala) discreta* (Reed) (q.v.).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

Whittington 1956, p. 515, pl. 59, fig. 13, pl. 60, fig. 10 (A1030*b*).

Proetus ardmillanensis Begg

Holotype, A3692, part of a small cranium.

Caradoc, Balclatchie Group; Dow Hill, near Girvan.

Begg 1947, p. 42, pl. 3, fig. 3.

Proetus balclatchiensis Begg

Holotype, A4122 (BG11898), an incomplete cephalon and part of the enrolled thorax.

Caradoc, Balclatchie Group; Balclatchie, near Girvan.

Begg 1951, p. 362, pl. 1, fig. 1.

Proetus fardenensis Begg

Holotype, A3821 (BG11894), a cephalon with part of the thorax.

Ashgill, Upper Drummuck Group, Starfish Bed No. 2; Ladyburn, near Girvan.
Begg 1950, p. 285, pl. 14, figs. 1, 2.

Proetus girvanensis Nicholson and Etheridge

Part of a cephalon with hypostome in place beneath the glabella, A731 (BG8341).
Ashgill, Upper Drummuck Group, Starfish Bed No. 2; Ladyburn, near Girvan.
Begg 1943a, p. 57, pl. 2, figs. 7, 7a.

Proetus mactaggarti Begg

Holotype, A3691 (BG11871), a complete specimen.
Ashgill, Upper Drummuck Group, Starfish Bed a few feet above No. 3; Ladyburn, near Girvan.
Begg 1947, p. 40, pl. 3, figs. 1, 2.

Proetus scobieii Begg

Holotype, A3689 (BG11017), a cephalon.
Ashgill, Upper Drummuck Group, Starfish Bed No. 2; Ladyburn, near Girvan.
Begg, *in* Begg and Reed 1945, p. 261, pl. 1, figs. 1, 2.

Proetus trefoilium Begg

Holotype, A4123 (BG11899), external mould of an almost complete cephalon.
Caradoc, Balclatchie Group; Balclatchie, near Girvan.
Begg 1951, p. 364, pl. 1, fig. 2.

Proetus sp.

A small, incomplete cranidium, counterparts, A4124a (BG11900) and A4124b (BG11900a).
Caradoc, Balclatchie Group; Balclatchie, near Girvan.
Begg 1951, p. 365, pl. 1, fig. 3 (A4124a).

Pseudosphaerexochus granulatus (Angelin)

Reed referred to two cranidia (BG2075 and BG2335), but only one of them, A1050 (BG2075), is in the Hunterian Museum. The other was sent by Begg to the Senckenberg Museum, Frankfurt-on-Main, there numbered SMF X 929a.
Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.
Reed 1935a, p. 56, pl. 4, fig. 2 (A1050).

Pseudosphaerexochus subquadratus Reed

Part of a cranidium, A1048 (BG748).
Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.
Reed 1935a, p. 56, pl. 4, fig. 3.

Remopleurides asteroideus Reed

Three glabellae, A933 (BG2066), A1127 (BG785), A1128 (BG2341).
Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.
Reed 1935a, p. 11, pl. 4, fig. 6 (A933), fig. 7 (A1127).

Remopleurides hedströmi Reed

Holotype, a cranidium, A3629 (BG9502).
Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Threave Glen (Ladyburn), near Girvan.
Reed 1944a, p. 58, pl. 2, figs. 2, 2a.

Selenoharpes youngi (Reed)

Cephalae with fringe, A4468 (BG206) and A4469 (BG205).
Caradoc, Balclatchie Beds; Balclatchie, near Girvan.
Whittington 1950, p. 30, pl. 3, fig. 4 (A4469), fig. 5 (A4468).

Sphaerocoryphe hastata Begg

Holotype, A1095 (BG2151) and A1095a (BG2512), counterparts, part of a cephalon.
Caradoc, Stinchar Limestone Group, *Didymograptus superstes* Shales; Aldons Quarry, near Girvan.
Begg 1940a, p. 302, pl. 4, fig. 8 (A1095).

Sphaerocoryphe thomsoni Reed

Of six specimens referred to, BG7729–31, BG955, BG7727, and BG7728, the first three cannot be found. The specimens in the Hunterian Museum are a cranidium, A1110 (BG955), and two specimens on a single slab, A838 (BG7727 and BG7728), in each of which the glabella is removed and the hypostome exposed.

Ashgill, Upper Drummuck Group, Starfish Bed No. 2; Ladyburn, near Girvan.

Begg 1940a, p. 300, pl. 4, fig. 3 (A1110), fig. 6 (A838).

Stygina latifrons (Portlock)

A specimen in which the glabella is removed, exposing an external mould of the hypostome, A732 (BG3308).

Ashgill, Upper Drummuck Group, Starfish Bed No. 2; Ladyburn, near Girvan.

Begg 1943a, p. 58, pl. 2, fig. 5.

Telephus girvanensis Reed

Reed implied that the Begg Collection includes more than one example of this species, but only one specimen, a cranidium, A921 (BG3140), is quoted by number.

Caradoc, Stinchar Limestone Group, *Didymograptus superstes* Shales; Aldons, near Girvan.

Reed 1935a, p. 9, pl. 1, figs. 2, 2a (A921).

Teratorhynchus sp.

A cephalon and a few thoracic segments, A3823 (BG229).

Caradoc, Balclatchie Group; Dow Hill, near Girvan.

Begg 1950, p. 290, pl. 14, fig. 3.

Tretaspis cerioides (Angelin) var. *sortita* Reed

Three almost complete specimens, A3625 (BG2251), A3626 (BG24), A3628 (BG23), and two cephalae, A3624 (BG3049), A3627 (BG9515).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

Begg 1944, p. 113, pl. 5, fig. 2 (A3624), figs. 3 and 6 (A3625), fig. 4 (A3626), fig. 5 (A3627), fig. 7 (A3628).

Trinucleus (Cryptolithus) gibbifrons M'Coy var. *praeterita* Reed

Reed referred the following specimens to this variety: A930 (BG1000), A924 (BG1002), A925 (BG2263), A926 (BG1003), A927 (BG2264), A928 (BG1013), A929 (BG1014), and BG1004. Of these, BG1004 is missing. The specimens are cephalae or parts of cephalae, except A928 and A929, which are pygidia.

Ashgill, Lower Drummuck Group, Quarrel Hill mudstones; Quarrel Hill, near Girvan.

Reed 1935a, p. 1, pl. 4, fig. 11 (A924), fig. 12 (A925), fig. 13 (A926), fig. 14 (A927), fig. 15 (A928).

Trinucleus (Tretaspis) persulcatus Reed

The species appears to be based on one specimen in the John Smith Collection and on several specimens in the Begg Collection, of which three (BG951, BG964, and BG967) are missing. The specimens remaining are A1116 (BG968), A1117 (BG974), A1118 (BG975), A1119 (BG980), A1120 (BG981), and A932 (BG982).

Ashgill, Upper Drummuck, Starfish Bed No. 1; Ladyburn, near Girvan.

Reed 1935a, p. 6, pl. 4, fig. 16 (A932).

Warburgella rotundata Begg

Holotype, A1084 (BG9323), and paratype, A1085 (BG6458), both almost complete specimens.

Ashgill, Upper Drummuck Group, Starfish Bed No. 2; Ladyburn, near Girvan.

Begg 1939, p. 378, pl. 6, figs. 5 and 6 (A1084), fig. 4 (A1085).

*Silurian**Acidaspis (Globulaspis) prominens* Reed

Holotype, an incomplete cranidium, A1066 (BG735).

Middle Valentian, Saugh Hill Group; Newlands, near Girvan.

Reed 1931a, p. 100, pl. 5, figs. 5, 5a, b.

Acidaspis (Miraspis) ultima Reed

Holotype, a small incomplete cranidium, A1065 (BG738).
Middle Valentian, Saugh Hill Group; Newlands, near Girvan.
Reed 1931a, p. 99, pl. 5, figs. 6, 6a.

Cheirurus conjunctus Reed

Holotype, a well-preserved cranidium, A1045 (BG1198), and its external mould, A1045a (BG1199).
Middle Valentian, Saugh Hill Group; Newlands, near Girvan.
Reed 1935a, p. 55, pl. 4, fig. 1 (A1045).

Cheirurus elongatus Reed

The species is based on four syntypes—two incomplete cranidia, A1072 (BG421) and A1073 (BG420), an external mould of a pygidium, A1074 (BG422), and a hypostome, A1075 (BG419).
Middle Valentian, Saugh Hill Group; Newlands, near Girvan.
Reed 1931a, p. 103, pl. 4, figs. 5, 5a (A1072), fig. 6 (A1073), fig. 7 (A1074); pl. 5, fig. 4 (A1075).
Begg 1943a, p. 62 (A1075).

Cyphoproetus newlandensis Begg

Holotype, A3824 (BG11895), a small cranidium.
Middle Valentian, Saugh Hill Group; Newlands, near Girvan.
Begg 1950, p. 287, pl. 14, fig. 7.

Illaeus aemulus Salter

A pygidium, A936 (BG1028).
Middle Valentian, Saugh Hill Group, Upper Pentamerus Bed; Penwhapple Glen, near Girvan.
Reed 1935a, p. 25, pl. 2, fig. 9.
A head-shield (BG1036), referred to as probably belonging to this species, cannot be found in the Begg Collection.

Phacops elliptifrons Sars and Boeck

An incomplete hypostome, A742 (BG8715).
? Saugh Hill Group; north of Mulloch Hill, near Girvan.
Begg 1943a, p. 61, pl. 2, fig. 9.
Specimens that show some detail of the ventral 'interlocking' furrow of the cephalon, A4141 (BG586), A4142–5.
Middle Valentian, Saugh Hill Group; Newlands, near Girvan.
Begg 1950, p. 367, pl. 1, figs. 6 and 7 (A4141), fig. 8 (A4142), fig. 9 (A4143), fig. 10 (A4144), fig. 11 (A4145).

Proetus sp.

External moulds of two pygidia, A4125 (BG11901), and A4126 (BG11902).
Middle Valentian, Saugh Hill Group; Newlands, near Girvan.
Begg 1950, p. 366, pl. 1, fig. 4 (A4125), fig. 5 (A4126).

Proetus (Cyphoproetus) externus Reed

Holotype, a cranidium, A1032 (BG911).
Middle Valentian, Saugh Hill Group; Newlands, near Girvan.
Reed 1935a, p. 42, pl. 2, fig. 15.

Proetus interjectus Reed

Holotype, a small cranidium, A1031 (BG2057).
Middle Valentian, Saugh Hill Group; Newlands, near Girvan.
Reed 1935a, p. 40, pl. 3, fig. 23.

Proetus scoticus Reed

Holotype, a cranidium, A1109 (BG9483).
Lower Llandovery, Mulloch Hill Group; Craigs, near Girvan.
Reed 1941, p. 271, pl. 5, fig. 3.

Proetus subtriangularis Begg

Holotype, A3822 (BG11896), a cranidium.

Middle Valentian, Saugh Hill Group; Newlands, near Girvan.

Begg 1950, p. 287, pl. 14, fig. 6.

Scutellum (Bronteus) cunctatum Reed

According to Reed there are three nearly perfect cranidia and two pygidia in the Begg Collection, which are presumably the syntypes of the species. One of these specimens cannot be found, but the four figured specimens are available. These are two cranidia, A1061 (BG501) and A1062 (BG503), and two pygidia, A1063 (BG499) and A1064 (BG495).

Middle Valentian, Saugh Hill Group; Newlands, near Girvan.

Reed 1931a, p. 97, pl. 4, fig. 1 (A1061), fig. 2 (A1062), fig. 3 (A1063), fig. 4 (A1064).

*Carboniferous**Cummingella balladoolensis* Reed

The species is represented by three syntypes—two cephalae, A3704 (BG8601) and A3705 (BG8601a), and a glabella, the latter on the same rock-fragment as a pygidium, A3706 (BG8601x).

Carboniferous Limestone, Upper Limestone; Balladoole, Isle of Man.

Reed 1942, p. 668, pl. 10, fig. 1 (A3704), fig. 2 (A3705), figs. 3, 3a (A3706).

Cyphinioides ashfellsensis Reed

Holotype, a complete individual enrolled so that the cephalon is pressed against the pygidium, A3700 (BG7853).

Lower Carboniferous, Ashfell Limestone; near Kirkby Stephen, Yorkshire.

Reed 1942, p. 654, pl. 8, figs. 1, 1a, 2.

Eocyphinium clitheroense Reed

Holotype, a cephalon, A3701 (BG8602).

Lower Carboniferous; Clitheroe, Lancashire.

Reed 1942, p. 656, pl. 9, figs. 1, 1a.

Eocyphinium? bivium Reed

Holotype, a pygidium in interior view, A3702a (BG9082), and its internal mould, A3702 (BG9089).

Upper Limestone Group, Calmy Limestone; Linn Spout, Dalry, Ayrshire.

Reed 1942, p. 659, pl. 9, figs. 2, 2a, b (A3702).

Griffithides? ambiguus Reed

Holotype, a pygidium, A3714 (BG7579).

Carboniferous Limestone, Upper Limestone; Balladoole, Isle of Man.

Reed 1942, p. 667, pl. 11, figs. 6, 6a, b.

Weberides dalriensis Reed

Holotype, a pygidium, A3707 (BG9080).

Upper Limestone Group, Calmy Limestone; Linn Spout, Dalry, Ayrshire.

Reed 1942, p. 666, pl. 10, figs. 4, 4a, b.

Weberides mucronatus M'Coy var. *lata* Reed

Holotype of the variety, a pygidium, A3713 (BG7851).

Lower Limestone Group; Leslie, Fife.

Reed 1942, p. 663, pl. 11, figs. 5, 5a.

Weberides mucronatus M'Coy var. *traquairi* Reed

Syntypes of the variety appear to be a cephalon, A3709 (BM104), and two pygidia, A3710 (BM103) and A3711 (BM102).

Carboniferous Limestone Series; Garple Burn, Muirkirk, Ayrshire.

Reed 1942, p. 660, pl. 11, fig. 1 (A3709), figs. 2, 2a (A3710) and fig. 3 (A3711).

A pygidium, A3712 (BG7852).

Lower Limestone Group; Leslie, Fife.
Reed 1942, pl. 11, fig. 4.

Weberides parilis Reed

Holotype, a pygidium, A3708 (BG9094).
Upper Limestone Group, Calmy Limestone; Linn Spout, Dalry.
Reed 1942, p. 664, pl. 10, figs. 5, 5a, b.

Ordovician

BRACHIOPODA

Aegiria? balclatchiensis (Reed)

An internal mould of a ventral valve, L2795 (BG9477).
Caradoc, Balclatchie Group; Balclatchie, near Girvan.
Reed 1941, p. 273, pl. 5, fig. 6.

Bimuria perrugata Reed

Holotype, L3191 (BG11754), an external mould of a dorsal valve with the hinge-area of the ventral valve; paratypes, two external moulds of dorsal valves, L3192 (BG11874) and L3193 (BG11729).
Caradoc, Balclatchie Group; Balclatchie Bridge, near Girvan.
Reed 1945, pp. 313–14, pl. 1, fig. 1 (L3191), fig. 2 (L3192), fig. 3 (L3193).

Chonetes (Eodevonaria) celtica Reed

Holotype, L3315 (BG9748), a dorsal valve with the hinge-areas of both valves.
Caradoc, Balclatchie Group; Balclatchie, near Girvan.
Reed, 1944c, p. 217, pl. 3, figs. 2, 2a.

Coelospira? insoleta Reed

Holotype, an internal mould of a complete shell, L2805 (BGS75).
Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Threave Glen (Ladyburn), near Girvan.
Reed 1935b, p. 8, pl. 1, figs. 2, 2a–d.

Lingula girvanensis Begg

Holotype, L2992, a ventral valve.
Ashgill, Upper Drummuck Group, Starfish Bed No. 2; Ladyburn, near Girvan.
Begg 1947, p. 32, pl. 2, fig. 2.

Lingula? isosceles Begg

Holotype, L2990.
Caradoc, Balclatchie Group; Balclatchie, near Girvan.
Begg 1947, p. 36, pl. 2, figs. 7, 7a.
In a letter (27 June 1949), Begg stated: 'I have now become convinced that this is a peculiarly preserved example of the *Hyolithes* present in the Balclatchie Beds.'

Lingula pustulosa Begg

Holotype, L2994, a ventral valve.
Ashgill, Upper Drummuck Group, Starfish Bed No. 2; Ladyburn, near Girvan.
Begg 1947, p. 31, pl. 2, fig. 1.

Lingulasma? concatenata Begg

Holotype, L2991, a ventral valve; paratype, L2993, an internal mould of a ventral valve with part of the shell in place.
Ashgill, Upper Drummuck Group, Starfish Bed No. 2; Ladyburn, near Girvan.
Begg 1947, p. 35, pl. 2, figs. 5, 5a (L2991), fig. 6 (L2993).

Lingulasma? fardenensis Begg

Holotype, L2996, a ventral valve; paratype, L2997, an internal mould of a ventral valve with part of the shell attached.
Ashgill, Upper Drummuck Group, Starfish Bed No. 2; Ladyburn, near Girvan.
Begg 1947, p. 33, pl. 2, fig. 4 (L2996).

Lingulasma cf. *penultimum* Reed

A ventral valve, L2998.

Ashgill, Upper Drummuck Group, Starfish Bed No. 2; Ladyburn, near Girvan.

Begg 1947, p. 33, pl. 2, figs. 3, 3a.

Orthis (*Glyptorthis*) *biornata* Reed

Holotype, L3194 (BG11716), external mould of a brachial valve.

Caradoc, Balclatchie Group; Balclatchie, near Girvan.

Reed 1945, p. 309, pl. 1, fig. 5.

Orthis (*Barbarorthis*) cf. *foraminifera* Opik

External mould of a dorsal valve, L2799 (BGS37).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Threave Glen (Ladyburn), near Girvan.

Reed 1935b, p. 4, pl. 1, fig. 10.

Orthis (*Platystrophia*) *praecursor* Foerste var. *molaris* Reed

Holotype of the variety, a ventral valve, L2800 (BG110).

Whitehouse Group; Shalloch Mill, near Girvan.

Reed 1935b, p. 4, pl. 1, fig. 4.

Orthis (*Barbarorthis*) *quarrelensis* Reed

Holotype, an internal mould of a ventral valve, L2798 (BG126).

Ashgill, Lower Drummuck Group, Quarrel Hill mudstones; Quarrel Hill, near Girvan.

Reed 1935b, p. 3, pl. 1, figs. 6, 6a.

Plectambonites *praeteritus* Reed

Holotype, L3195 (BG11726), external mould of a dorsal valve.

Caradoc, Balclatchie Group; Balclatchie, near Girvan.

Reed 1945, p. 312, pl. 1, fig. 4.

Plectodonta *thraivensis* (Reed) var. *divergens* Reed

Holotype of the variety, an internal mould of a ventral valve, L3314 (BG9558).

Caradoc, Craighead Mudstones (not Craighead Limestone, as stated); Craighead Quarry, near Girvan.

Reed 1944c, p. 216, pl. 3, figs. 3, 3a.

Ptychoglyptus *shallochensis* Reed

Holotype, half of a dorsal valve showing the hinge-area, L2803 (BG144).

Whitehouse Group; Shalloch Mill, near Girvan.

Reed 1935b, p. 7, pl. 1, fig. 5.

Ptychoglyptus *virginiensis* Willard var. *irregularis* Reed

Holotype of the variety is based on one valve showing ornament, L2794 (BG9482).

Caradoc, Balclatchie Group; Balclatchie, near Girvan.

Reed 1941, p. 274, pl. 5, fig. 8.

Rafinesquina cf. *hadelandica* Høltedahl

A small ventral valve, L2796 (BG9479).

Caradoc, Balclatchie Group; Balclatchie, near Girvan.

Reed 1941, p. 274, pl. 5, fig. 9.

Siphonotreta *lagganensis* Begg

Holotype, L3371, a small ventral valve.

Caradoc, Balclatchie Group; Laggan Gill, near Girvan.

Begg 1947, p. 44, pl. 3, fig. 9.

Sowerbyella cf. *undosa* Öpik

Internal mould of a small ventral valve, L2804 (BG1124).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Threave Glen (Ladyburn), near Girvan.

Reed 1935b, p. 7, pl. 1, fig. 8.

Strophomena planumbona (Hall) var. *girvanensis* Reed

Holotype of the variety, a ventral valve in interior view, L3316 (BG9741).

Caradoc, Balclatchie Group; Balclatchie, near Girvan.

Reed 1944c, p. 218, pl. 3, fig. 5.

Triplecia asteroidea Reed

Syntypes, three internal moulds, one of a complete shell, L2801 (BGS49), which is figured. Of the other two, only one, L2802 (BG5228), is in the Hunterian Museum.

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Threave Glen (Ladyburn), near Girvan.

Reed 1935b, p. 5, pl. 1, figs. 1, 1a-c (L2801).

*Silurian**Meristina mullochensis* Reed

Syntypes, an internal mould of a ventral valve, L2807 (BG2015), and an internal mould of a complete shell, L2808 (BG1154).

Lower or Middle Valentian, Mulloch Hill Group; Rough Neuk (L2807) and Mulloch Hill (L2808), near Girvan.

Reed 1935b, p. 10, pl. 1, figs. 9, 9a (L2807).

Orthia (Orthostrophia) canreganensis Reed

Holotype, an internal mould of a ventral valve, L2797 (BG108).

Upper Llandovery, Camregan Group; Penwhapple, near Girvan.

Reed 1935b, p. 2, pl. 1, fig. 7.

Rhynchospirina dispar Reed

Holotype, a small ventral valve, L2806 (BG2030).

Middle Valentian, Saugh Hill Group; Newlands, near Girvan.

Reed 1935b, p. 9, pl. 1, fig. 3.

*Carboniferous**Fluctaria undata* (Defrance)

A ventral valve, L1536.

Viséan; Poolvash, Isle of Man.

Muir-Wood and Cooper 1960, pl. 115, figs. 15-19.

LAMELLIBRANCHIA

*Ordovician**Ambonychia balclatchiensis* Reed

Holotype, a nearly complete shell, S7639 (BG9722).

Caradoc, Balclatchie Group; Balclatchie, near Girvan.

Reed 1944b, p. 213, pl. 2, fig. 2.

Byssonychia quarrelensis Reed

Holotype, an internal mould of a right valve, S7644 (BG11885).

Ashgill, Lower Drummuck Group, Quarrel Hill mudstones; Quarrel Hill, near Girvan.

Reed 1946, p. 203, pl. 14, figs. 3, 4.

Ctenodonta collina Reed

Holotype, internal mould of a left valve, S7641 (BG11880).

Ashgill, Lower Drummuck Group, Quarrel Hill mudstones; Quarrel Hill, near Girvan.

Reed 1946, p. 202, pl. 14, fig. 1.

Cyrtodonta reposita Reed

Holotype, an internal mould of a left valve, S7637 (BG9765).

Caradoc, Balclatchie Group; Balclatchie, near Girvan.

Reed 1944b, p. 210, pl. 2, fig. 5.

Goniophorina sp.

A left valve, S7648 (BG11889).

Ashgill, Lower Drummuck Group, Quarrel Hill mudstones; Quarrel Hill, near Girvan.

Reed 1946, p. 204, pl. 14, fig. 6.

Orthodesma cf. *approximatum* Foerste

An internal mould of a right valve, S7647 (BG11888).

Ashgill, Lower Drummuck Group, Quarrel Hill mudstones; Quarrel Hill, near Girvan.

Reed 1946, p. 204, pl. 14, fig. 5.

Plethocardia propinqua Reed

Holotype, a nearly complete shell, S7638 (BG9762).

Caradoc, Balclatchie Group; Balclatchie, near Girvan.

Reed 1944b, p. 211, pl. 2, figs. 3, 3a-c.

Vanuxemia? *girvanensis* Reed

Holotype, a small shell, S7564 (BG9484), both valves, side by side but not in contact.

Ashgill, Upper Drummuck Group, Ladyburn mudstones, Zone of *Dicellograptus anceps*; South Threave, near Girvan.

Reed 1941, p. 276, pl. 5, fig. 4.

Vanuxemia aff. *sardesoni* Ulrich

Internal mould of a left valve, S7645 (BG11886).

Ashgill, Lower Drummuck Group, Quarrel Hill mudstones; Quarrel Hill, near Girvan.

Reed 1946, p. 203, pl. 14, fig. 2.

*Silurian**Nuculites seductus* Reed

Holotype, an internal mould of a right valve, S7563 (BG9485).

Middle Valentian, Saugh Hill Group; Newlands, near Girvan.

Reed 1941, p. 276, pl. 5, fig. 10.

GASTROPODA

*Ordovician**Archinacella unica* Reed

Holotype, S9659 (BG6742).

Ashgill, Upper Drummuck Group, Ladyburn mudstones, Zone of *Dicellograptus anceps*; South Threave, near Girvan.

Reed 1941, p. 275, pl. 5, figs. 5, 5a.

*Carboniferous**Bucaniopsis decussatus* (Fleming)

An almost complete specimen, S9679 (BG6988).

Carboniferous, Lower Limestone Group, 'Chiton Bed'; Woodmill, Dunfermline.

Weir 1931, p. 821, pl. 8, fig. 12.

Eoptychia sulcata (de Koninck)

Two almost complete specimens, S9493 and S9494. A young specimen also figured (fig. 3) cannot be found in the Begg Collection.

Carboniferous, Viséan; Balladoole, Isle of Man.

Longstaff 1933, p. 113, pl. 10, fig. 1 (S9493), fig. 2 (S9494).

Euphemus urei (Fleming) var.

A specimen with incomplete apertural margin, S9674 (BG7013).

Carboniferous, Lower Limestone Group, 'Chiton Bed'; Woodmill, Dunfermline.

Weir 1931, p. 845, pl. 9, fig. 8.

Glabrocingulum atomarium (Phillips)

A complete specimen, S9070 (BG9326).

Lower Limestone Group, Charlestown Main Limestone; Woodmill, Dunfermline.

Thomas 1940, p. 40, pl. 2, figs. 2a, b.

Mourlonia monensis Weir

This species is founded on two specimens in neither of which is the aperture preserved, S9076 (BG7121), S9077 (BG7122).

Carboniferous, Poolvash Limestone; Balladoole, Isle of Man.

Weir 1925, p. 434, pl. 19, figs. 1, 2 (S9076).

Polytremaria beggi Weir

Syntypes, three specimens, none with complete aperture, S9078 (BG7123), S9079 (BG7125), S9080.

Carboniferous, Poolvash Limestone; Balladoole, Isle of Man.

Weir 1925, p. 435, pl. 19, figs. 3, 4.

Portlockia cf. *blanda* (de Koninck)

Two well-preserved specimens, S9082, S9083. In S9082 the outer lip is slightly fractured, and in S9083 it is absent.

Carboniferous, Poolvash Limestone; Balladoole, Isle of Man.

Weir 1925, p. 436, pl. 19, figs. 5, 6 (S9082). Knight 1933, p. 38.

Scalites ambiguus Weir

Holotype, a well-preserved specimen, S9081 (BG7110).

Carboniferous, Poolvash Limestone; Balladoole, Isle of Man.

Weir 1925, p. 437, pl. 19, figs. 8, 9.

Tychonia near *Tychonia omaliana* (de Koninck)

One specimen, S9075 (BG7126).

Carboniferous, Poolvash Limestone; Balladoole, Isle of Man.

Weir 1925, p. 433, pl. 19, fig. 7.

Ordovician

ECHINOIDEA

Aulechinus grayae Bather and Spencer

An external mould of part of a test, E1225 (JLB19), one of the specimens used in description of the species.

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

MacBride and Spencer 1938, p. 98, pl. 12, fig. 2.

Ectinechinus lamonti MacBride and Spencer

An external mould of part of a test, E1226 (JLB21), and internal moulds of parts of tests, E1127 (JLB22) and E1232 (JLB26), are part of the material used in the description of this species.

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

MacBride and Spencer 1938, p. 99, pl. 12, fig. 4 (E1226), pl. 12, fig. 6 (E1127), pl. 11, fig. 4 (E1232).

Eothuria beggi MacBride and Spencer

Holotype, E1224 (JLB31), internal mould of part of a test, and a portion of its external mould, E1224a (JLB30).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

MacBride and Spencer, 1938, pp. 95, 126, pl. 16, figs. 1, 2 (E1224).

Ordovician

CRINOIDEA

Anulocrinus drummuckensis Ramsbottom

Holotype, E3508a and E3508b (BG9300b), counterparts, external moulds of cup and arms.

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Thraive Glen (Ladyburn), near Girvan.

Ramsbottom 1961, p. 9, pl. 2, fig. 9 (E3508b), fig. 10 (E3508a).

Anulocrinus thraivensis Ramsbottom

Paratypes, E3524 (BG3386) and E3496 (BG3389), both external moulds of cup and arms. The holotype and other paratypes are in the British Museum, and there is also a paratype in the Lamont Collection (Hunterian Museum).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Thraive Glen (Ladyburn), near Girvan.
Ramsbottom 1961, p. 8, pl. 2, fig. 8 (E3524).

Archaeocrinus elevatus Ramsbottom

Holotype, E3488a; paratypes, E3487a, E3488e, E3513, E3529, E3615; all cups or parts of cups. Caradoc, Stinchar Limestone Group, *Orthis confinis* Beds; Minuntion, near Girvan.

Ramsbottom 1961, p. 23, pl. 8, fig. 4 (E3488a), fig. 2 (E3487a), fig. 1 (E3488e), fig. 3 (E3615), text-fig. 11, p. 24 (based on E3487a, E3488a, E3488e, E3513, E3529).

Cupulocrinus heterobrachialis Ramsbottom

Holotype, E3614 and E3614a (counterparts); paratypes, E3484 and E3484a (BG3377 and BG3377a) (counterparts), and E3485 (BG3378a); all external moulds of stem, cup, and arms.

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Thraive Glen (Ladyburn), near Girvan.
Ramsbottom 1961, p. 12, pl. 5, figs. 1, 2 (E3614a), fig. 3 (E3484), fig. 5 (E3485).

Deudocrinus granditubus Ramsbottom

Paratypes, E3509 (BG7948), E3516 (BG3396), E3518 (BG7950), E3603, E3605, all external moulds of the anal tube and parts of the stem, cup, and arms. The holotype is in the British Museum (Natural History).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Thraive Glen (Ladyburn), near Girvan.
Ramsbottom 1961, p. 15, pl. 4, fig. 1 (E3603), fig. 4 (E3509), fig. 5 (E3518), fig. 6 (E3605), fig. 7 (E3516). (Ramsbottom's fig. 1 and fig. 2 should be interchanged: fig. 1 is the Hunterian paratype, not, as stated by Ramsbottom, the holotype, which is fig. 2.)

Diabolocrinus sp.

Internal and external moulds of part of a large cup, E3504a (BG7841a) and E3504b (BG7841b).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Thraive Glen (Ladyburn), near Girvan.
Ramsbottom 1961, p. 29, pl. 4, fig. 10 (E3504b).

Macrostylocrinus cirrifer Ramsbottom

An external mould of stem with cirri, E3492 (BG9451). The holotype and paratypes are in the Lamont Collection (Hunterian Museum).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Thraive Glen (Ladyburn), near Girvan.
Ramsbottom 1961, p. 20, pl. 6, fig. 11 (E3492).

Protaxocrinus girvanensis Ramsbottom

An external mould of stem, cup, and arms, E3606 (BG9475). The holotype is in the British Museum (Natural History).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Thraive Glen (Ladyburn), near Girvan.
Ramsbottom 1961, p. 19, pl. 6, fig. 15 (E3606).

Undetermined heterocrinid

An external mould of stem, cup, and arms (E3613).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Thraive Glen (Ladyburn), near Girvan.
Ramsbottom 1961, p. 10, pl. 6, fig. 5.

*Carboniferous**Dialutocrinus aculeatus* (T. and T. Austin)

A young specimen in side view, E3459.

Tournaisian; Hook Head, Co. Wexford, Eire.

Wright 1955, p. 247, pl. 59, fig. 4.

Dialutocrinus cataphractus (T. and T. Austin)

A young specimen in side view, E3472a (BG7349); calyx and arms somewhat crushed, E3473 (BG9467); calyx and arms in side view, E3450 (BG7330).

Tournaisian; Hook Head, Co. Wexford, Eire.

Wright 1955, p. 248, pl. 59, fig. 1 (E3473), pl. 59, fig. 5 (E3472a), pl. 64, fig. 3 (E3450).

Holcocrinus smythi (Wright)

Calyx and arms in side view, E3464 (BG9446).

Tournaisian, Supra-Dolomite Beds; Hook Head, Co. Wexford, Eire.

Wright 1952, p. 105, pl. 36, fig. 14.

Onychocrinus hibernicus Wright

Paratypes, E3466 (BG9447), calyx and arms in dorsal view, and E3478 (BG7359), part of calyx and arms in side view.

Tournaisian, Supra-Dolomite Beds; Hook Head, Co. Wexford, Eire.

Wright 1934, p. 261, pl. 15, fig. 1, text-fig. 29 (E3466); 1954, p. 174, pl. 45, fig. 16, text-fig. 93 (E3466).

Ophiurocrinus dactyloides (T. and T. Austin)

Part of calyx and arms in side view, E3467.

Tournaisian; Hook Head, Co. Wexford, Eire.

Wright 1950, p. 21, pl. 6, fig. 3.

Scytalocrinus beggi Wright

Holotype, E3354 (BG8556), calyx and arms in side view.

Viséan, Upper Caninia zone; Cass-ny-hawin, Isle of Man.

Wright 1938a, p. 285, pl. 11, fig. 12; 1938b, p. 343, pl. 13, fig. 2; 1950, p. 22, pl. 6, fig. 6.

Ulocrinus nuciformis (M'Coy)

A cup with two columnals, E3436 (BG7544).

Lower Limestone Group; Corrieburn, Campsie.

Bather 1920, p. 207, text-figs. 1 and 2. Wright 1939, p. 28.

Ureocrinus bockschii (Geinitz)

A calyx and one arm in side view, E3435.

Lower Carboniferous; Penton Linns, Liddesdale.

Wright and Strimple 1945, p. 225, pl. 9, fig. 10.

Ordovician

INCERTAE SEDIS—CYCLOCYSTOIDES

Cyclocystoides decussatum Begg

Syntypes, an almost complete lower plate, E5071 (BG2004), a fragment of its counterpart upper plate, E5071a (BG2005), together with two specimens in the Lamont Collection.

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

Begg 1934, p. 220, pl. 11, fig. 2 (E5071a), fig. 3 (E5071).

Part of a lower plate and marginal ring, E5074 (BG9038).

Same horizon and locality.

Begg 1940b, p. 24, pl. 1, fig. 3.

Cyclocystoides wrighti Begg

Holotype, E5073 (BG8213) and E5073a (BG8213a), counterparts, complete upper and lower plates with marginal ring.

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

Begg 1940b, p. 23, pl. 1, fig. 1 (E5073), fig. 2 (E5073a).

Ordovician

CONULARIIDS

Conularia asteroidea Reed

Holotype, a crushed fragment, S9715 (BG2002).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

Reed 1933, p. 357, pl. 19, figs. 4, 4a.

Conularia cunctata Reed

Holotype, a nearly complete specimen, S9714 (BG2310).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

Reed 1933, p. 357, pl. 19, figs. 3, 3a-b.

Conularia mirifica Reed

Holotype, S9711 (BG238).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

Reed 1933, p. 356, pl. 19, figs. 1, 1a-b.

Conularia slateri Reed

Holotype, a crushed specimen, S9710 (BG237).

Ashgill, Upper Drummuck Group, Starfish Bed No. 1; Ladyburn, near Girvan.

Reed 1933, p. 355, pl. 19, figs. 2, 2a-c.

Conularia truemani Begg

Holotype, C5980, an almost complete specimen.

Ashgill, Upper Drummuck Group, Starfish Bed a few feet above No. 3; Ladyburn, near Girvan.

Begg 1947, p. 37, pl. 3, figs. 4, 5.

Pseudoconularia currieae Begg

Holotype, C5981 and its counterpart C5981a, a large specimen.

Ashgill, Upper Drummuck Group, Starfish Bed a few feet above No. 3; Ladyburn, near Girvan.

Begg 1947, p. 39, pl. 3, fig. 6 (C5981).

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